Remarks/Arguments:

The Examiner's objection to the oath or declaration, under MPEP §§ 602.01 and 602.02, is duly acknowledged and, pursuant to MPEP §602.01 and 37 C.F.R. §1.63 (c)(1), is overcome by the Application Data Sheet transmitted herewith.

Claims 1 and 4 were amended to correct minor errors. No new material has been added.

Claims 1, 6, 9, and 10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Reitmeier (6,118,498) and in view of Limberg (6,445,425). This ground for rejection is respectfully traversed.

Claim 1 in subject application pertains to "apparatus for deriving a channel map for a digital television (DTV) receiver comprising" components the Examiner asserts are "taught by Reitmeier as seen in Figure 1." Claim 6 concerns the corresponding method. As acknowledged by the Examiner, however, Reitmeier teaches neither "an amplitude detector coupled to the tuner to provide a measure of the amplitude of the tuned television signal", "a comparator, configured to compare the measure of amplitude provided by the amplitude detector to a threshold value and to provide an output signal having a first value if the measure of amplitude is greater than the threshold value and having a second value otherwise", nor "wherein the processor is responsive to the output signal of the comparator having the first value, to change a value in the channel map data structure to indicate that a the specified channel is received by the DTV receiver."

It is also noted that Reitmeier does not disclose any method for deriving a channel map as claimed in subject application. Rather, Reitmeier teaches a method by which to update a scan list in response to a user input (see line 25 of column 9 through line 27 of column 10). It is further noted that the method Reitmeier teaches to update the scan list is to demodulate and demultiplex the channel signal and to compare parameters derived from the resulting data stream with parameters stored in a scan list corresponding to the particular channel being updated (see line 55 of column 9 through line 17 of column 10). This does not correspond to the claims 1 and 6 of the subject application, which require that "a comparator, configured to compare the measure of amplitude provided by the amplitude detector to a threshold value

Received from < 610 407 0701 > at 4/14/03 4:23:57 PM [Eastern Daylight Time]

and... the processor is responsive to the output signal of the comparator... to change the value in the channel map data structure to indicate that the specified channel is received."

Further, the Applicants contest the assertion that "it is well known in the industry to scan a frequency range, obtain amplitudes, and compare the determined amplitudes to threshold values as claimed in order to detect television signals." As set forth in the background section of the subject application,

In a typical analog television receiver, the channel map is derived using a set-up function accessed via the control menu of the receiver. The set-up function sequentially scans the tuner from the lowest channel frequency to the highest channel frequency, attempting to tune each channel as it is encountered. Only channels that provide valid television signals are added to the channel map.

Applicants are aware only of systems in television receivers that derive a channel map by first determining that a valid television signal is being received. This involves considerably more than "obtaining amplitudes and comparing the determined amplitudes to threshold values" as asserted in the Office Action.

If the Examiner continues to maintain that this feature is well known, Applicants request the Examiner to cite a reference in support of this contention (see MPEP § 2144.03).

The unsupported assertion that this feature is well known violates the policies outlined in the February 21, 2002 memorandum to the Examining Corps from Steven G. Kunin, Deputy Commissioner for Patent Examination Policy. In particular, the memorandum states:

It would not be appropriate for the examiner to take Official Notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known. For example, assertions of technical facts in the areas of esoteric technology or specific knowledge of the prior art must always be supported by citation to some reference work recognized as standard in the pertinent art. (emphasis in original)

In the Office Action, the Examiner has impermissibly taken Official Notice of specific knowledge of the prior art without citing a supporting reference. This objectionable Official Notice is combined with Limberg's "amplitude detector 24 coupled to a threshold detector 25,

Received from < 610 407 0701 > at 4/14/03 4:23:57 PM [Eastern Daylight Time]

which performs the functions of the claimed comparator, in Figure 1," to render obvious the subject invention, as defined by claims 1 and 6.

Limberg, however, concerns an automatic fine-tuning system which teaches in column 10, lines 50-57, that an amplitude detector is used in conjunction with a threshold detector in order to determine if an automatic fine tuning (ATF) signal corresponds specifically to that of a digital television signal, otherwise it is assumed to be an analog signal. This reference does not disclose or suggest a method by which to determine if any television signal is present at a given channel frequency, nor does it teach a method by which to derive a channel map corresponding to the output of a comparator coupled to a threshold detector, as required by claims 1 and 6 of the subject invention.

The Office Action further asserts that: "[t]he Examiner takes Official Notice that it is notoriously well known in the art to update channel maps based on the output of a comparator that determines if a channel is offered."

For the same reasons, described above, Applicants respectfully disagree with this assertion and contest the Official Notice pursuant to MPEP § 2144.03 and the February 21, 2002 memorandum.

The Office Action asserts that the combination of Reitmeier and Limberg renders the claimed invention obvious, despite the fact that the Office Action has improperly asserted features in both references that that are not disclosed or suggested by either reference. Furthermore, the references are not in the same field of endeavor as the subject invention or of each other. Reitmeier concerns masking latency in switching among channels in a digital television receiver while Limberg concerns an automatic fine tuning system. The subject invention, on the other hand, concerns a method and apparatus for deriving a channel map for a digital television receiver. In combining these disparate references and improperly taking Official Notice of facts that "are not capable of instant and unquestionable demonstration," the Examiner has failed to establish a prima-facie case of obviousness.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. Second, there must be a reasonable expectation of success.

Received from < 610 407 0701 > at 4/14/03 4:23:57 PM [Eastern Daylight Time]

Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicants' disclosure.*
(emphasis added MPEP § 706.02(j)).

Absent the improper Official Notice, the Examiner has relied upon hindsight to arrive at the determination of obviousness because the only suggestion that would support the combination of Reitmeier and Limberg comes from Applicants' own disclosure. It is impermissible to use the claimed invention as an instruction manual or template to piece together the teachings of the prior art so that the claimed invention is rendered obvious. The Court has stated that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." *In re Fritch*, 23 USPQ 2d 1780, 1783, 1784 (Fed.Cir. 1992).

Thus, claims 1 and 6 are not subject to rejection under 35 U.S.C. § 103(a) as being unpatentable in view of Reitmeier and Limberg. Claims 9 and 10 depend from claim 6 and are not subject to rejection under 35 U.S.C. § 103(a) as being unpatentable in view of Reitmeier and Limberg for at least the same reasons as claim 6.

Additionally, with reference to the rejection of claim 10, the Examiner takes "Official Notice that it is notoriously well known in the art that building a channel map involves periodic scanning all possible frequencies that may be tuned to." Applicants are not aware of any reference that builds a channel map by periodically scanning all possible frequencies as required by claim 10. Typical channel maps are built using a start-up function. This function is performed infrequently and then only on the specific command of a user. This could not be considered to be "periodic" as required by claim 10.

Applicants respectfully contest this taking of Official Notice as violating MPEP §2144.03 and the above-referenced February 21, 2002 memorandum.

In the Office Action, it is further asserted that "[i]t would have been obvious... to modify the channel scanning techniques taught by Reitmeier by scanning for all possible frequencies in order to build a complete, accurate channel map in memory." Applicants respectfully disagree

Received from < 610 407 0701 > at 4/14/03 4:23:57 PM [Eastern Daylight Time]

with this assertion. Reitmeier teaches scanning "at least a portion of each of a plurality of predefined information streams" in order to retrieve and store "each of said retrieved portions of said plurality of predefined information streams in memory." The quoted passage refers to scanning multi-program data streams extracted from channels that are tuned responsive to a controller. (See lines 37-52 of column 5). This scanning is used to mask latency by storing I-frames for programs of channels in the scan list and then asserting the I-frame while the television tunes to and decodes the incoming DTV stream for that program. (See lines 1-14 of column 9). In order to add a channel to the scan list, Reitmeier requires positive input from the viewer. In particular, the viewer must first tune to a channel that is not in the scan list and the signal on that channel must be demodulated and demultiplexed before it is added to the scan list. (See line 25 of column 9 through line 27 of column 10). Furthermore, in the channel scanning mode, Reitmeier only tunes to the channels that are already in the scan list. Reitmeier does not teach full frequency scanning of "all possible channel frequencies that may be tuned by the DTV receiver" as required in the invention defined by claim 9, nor does he teach "comparing the measure of amplitude to a threshold value to determine if sufficient signal amplitude exists... to indicate a valid channel" as required by claim 6, nor does he teach periodically repeating the full frequency scan "at predetermined intervals to maintain a current channel map" as required by claim 10.

Because the Office Action has failed to cite any prior art references in support of the rejection of claims 6, 9 and 10 other than Reitmeier and Limberg, claims 6, 9 10 are not subject to rejection under 35 U.S.C. § 103(a) in view of Reitmeier and Limberg.

Claims 2-5 and 7-8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Reitmeier and Limberg, and further in view of Sakashita et al. (4,939,789). This ground for rejection is respectfully traversed.

Sakashita et al. concerns a receiver that is able to receive both FM satellite signals and terrestrially broadcast AM signals. Sakashita does not disclose or suggest any channel map nor any change in the value in the channel map data structure that is responsive to the output signal of a comparator. Thus, Sakashita does not provide the material in claims 1 and 6 that is missing from Reitmeier and Limberg. Accordingly, claims 2-5 and 7-8 are not subject to rejection under 35 U.S.C. § 103(a) in view of Reitmeier, Limberg and Sakashita et al. for at

Received from < 610 407 0701 > at 4/14/03 4:23:57 PM [Eastern Daylight Time]

least the same reasons that claims 1 and 6 are not subject to rejection as being obvious in view of Reitmeier and Limberg.

In addition, the Office Action asserts that in column 11, lines 40-58 of Sakashita et al, "Sakashita teaches that noise may be sampled and compared to a threshold value, which is adjusted based on the determined noise in order to improve the demodulation signal to noise ratio." Applicants respectfully disagree with this assertion. Rather, Sakashita teaches that through use of a frequency-variable filter, it is possible to improve the threshold level of the demodulation signal-to-noise (S/N) ratio so as to receive weaker signals that would not normally be able to rise above the noise level. The subject application is not aimed at filtering signals in order to pick up, pass, and amplify weaker signals. Rather, the invention defined by claim 3 adjusts the threshold based on an estimated noise level in order to determine whether the measured amplitude at a particular frequency represents a television signal or just noise.

Again, the Office Action has relied upon hindsight to arrive at the determination of obviousness. Because Sakashita et al. does not disclose or suggest apparatus for measuring noise or setting a threshold value based on measured noise, the only suggestion to modify Sakashita et al. to include this apparatus is based on Applicants' own disclosure. It is impermissible to use the claimed invention as an instruction manual or template to piece together the teachings of the prior art so that the claimed invention is rendered obvious. The Court has stated that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." *In re Fritch*, 23 USPQ 2d 1780, 1783, 1784 (Fed.Cir. 1992).

Because neither Reitmeier, Limberg, Sakashita et al. nor their combination discloses or suggests: 1) adjusting a threshold value if a baseband DTV signal is not present, as required by claims 2 and 7; or 2) adjusting the threshold value based on the measure of estimated noise, as required by claims 3 and 8, claims 2, 3, 7 and 8 are not subject to rejection under 35 U.S.C. § 103(a) in view of Reitmeier, Limberg and Sakashita et al. for reasons independent of claims 1 and 6 from which they depend.

With respect to claim 4, it is asserted in the Office Action that "the claimed 'apparatus for deriving a channel map for a digital television receiver' is taught by Reitmeier as seen in

Received from < 610 407 0701 > at 4/14/03 4:23:57 PM [Eastern Daylight Time]

Figure 1." Applicants respectfully disagree with this assertion. In particular, neither Reitmeier, Limberg, Sakashita et al. nor their combination teaches:

"a comparator, configured to compare the measure of amplitude provided by the amplitude detector to a threshold value and to provide an output signal having a first value if the measure of amplitude is greater than the threshold value and having a second value otherwise",

"wherein the processor is responsive to the output signal of the comparator having the first value, to change a value in the channel map data structure to indicate that a the specified channel is received by the DTV receiver and is responsive to the demodulator to increase the threshold value if the demodulator does not provide a baseband signal for the channel frequency requested by the user"

as recited in claim 4.

It is noted that neither Reitmeier, Limberg, Sakashita et al. nor their combination discloses any method for deriving a channel map as claimed in claim 4 of the subject application. Rather, Reitmeier teaches a method by which to update a scan list in response to user input. (See line 25 of column 9 through line 27 of column 10). It is further noted that the method of scan list updating presented by Reitmeier involves the viewer selecting a channel that is not in the scan list followed by the demodulation and demultiplexing of a data stream derived from the channel signal and comparison with parameters stored in memory corresponding to the particular channel being updated. This does not correspond to the claims in the subject application.

Further, Applicants respectfully disagree with the assertion that "it is well known in the industry to scan a frequency range, obtain amplitudes, and compare the determined amplitudes to threshold values as claimed in order to detect television signals", for the reasons described above with reference to the rejection of claims 1 and 6.

Applicants also respectfully disagree with the assertion that "it would have been obvious... to modify the frequency scanning methods taught by Reitmeier to determine the presence of signals as taught by Limberg in order to store an accurate list of programs available for selection in memory" for the reasons described above with respect to the rejection of claim 10.

Received from < 610 407 0701 > at 4/14/03 4:23:57 PM [Eastern Daylight Time]

For the reasons set forth above with respect to the rejection of claims 1 and 6, Applicants also contest the assertion in the Office action that the Examiner takes "Official Notice that it is notoriously well known in the art to update channel maps based on the output of a comparator that determines if a channel is offered." Thus, claim 4 is not subject to rejection under 35 U.S.C. § 103(a) as being obvious in view of Reitmeier, Limberg and Sakashita et al.

With regard to the rejection of claim 5, none of the references discloses or suggests that "the second tuner ... provides a measure of estimated noise in the received DTV signal." In the Office Action it is asserted that "Sakashita et al. ... teaches that noise may be sampled and compared to a threshold value." Applicants respectfully disagree with this assertion. Sakashita et al. at lines 41-59 of column 11 disclose that their filter produces an improved carrier to noise ratio, they do not disclose or suggest measuring this noise or generating a measure of estimated noise. This feature of claim 5 is also not disclosed by Reitmeier or Limberg. Accordingly, claim 5 is not subject to rejection under 35 U.S.C. § 103(a) as being unpatentable in view of Reitmeier, Limberg and Sakashita et al. for reasons independent of claim 4 from which it depends.

In light of the foregoing amendments and remarks, Applicants respectfully request that the Examiner reconsiders and withdraws the objections to the oath/declaration and the rejection of claims 1-10.

Respectfully submitted,

Kenneth N. Nigon, Reg. No. 31,549
Attorney(s) for Applicant(s)

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P.O. Box 980
Valley Forge, PA 19482-0980
(610) 407-0700

The Assistant Commissioner for Patents is hereby authorized to charge payment to Deposit Account No. 18-0350 of any fees associated with this communication.

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Kenneth N. Nigon

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